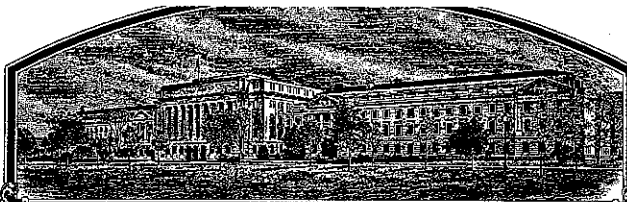


No.

200400153



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

NASH Research Foundation

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

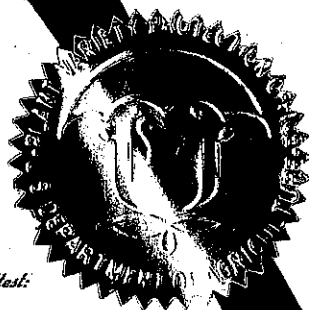
NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR OTHER VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED WHICH SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542; 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'RG405RR'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this thirteenth day of September, in the year two thousand and four.

Attest:



[Signature]
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service


[Signature]
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER NDSU Research Foundation		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME ND95-931CRR		3. VARIETY NAME 'RG405RR'	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) PO Box 5002 1735 NDSU Research Park Drive Fargo, ND 58105-5002		5. TELEPHONE (include area code) (701) 231-8931		FOR OFFICIAL USE ONLY VPVO NUMBER 200400153 FILING DATE 3/24/2004	
		6. FAX (include area code) (701) 231-6661			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) 501 (C) 3 Corporation		8. IF INCORPORATED, GIVE STATE OF INCORPORATION North Dakota		9. DATE OF INCORPORATION May, 1989	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)				FILING AND EXAMINATION FEES: \$ 3,652.00 DATE 3/24/2004 CERTIFICATION FEE: \$ 432.00 DATE 7/12/04	
11. TELEPHONE (include area code) 701-231-8136		12. FAX (include area code) 701-231-8474		13. E-MAIL ted.helms@ndsu.nodak.edu dale.zetocha@ndsu.nodak.edu	
14. CROP KIND (Common Name) Soybean		15. GENUS AND SPECIES NAME OF CROP Glycine max		16. FAMILY NAME (Botanical) Leguminosae	
17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)			
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety		b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness			
c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety		d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional)			
e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership		f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)			
g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act) <input checked="" type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input type="checkbox"/> NO (If "no", go to item 22)			
20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? IF YES, WHICH CLASSES? <input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)			
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)			
24. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER 		SIGNATURE OF OWNER			
NAME (Please print or type) Dale Zetocha		NAME (Please print or type)			
CAPACITY OR TITLE Executive Director		DATE 3/23/04		CAPACITY OR TITLE DATE	

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to **reproduce** the variety, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (*See Section 97.6 of the Regulations and Rules of Practice.*) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvp.htm>

ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (*See Regulations and Rules of Practice, Section 97.103.*)
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

21. CONTINUED FROM FRONT (*Please provide a statement as to the limitation and sequence of generations that may be certified.*)

22. CONTINUED FROM FRONT (*Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.*)

23. CONTINUED FROM FRONT (*Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).*)

'Barnes' soybean variety has a pending U.S. PVP application No. 200100032 filed on October 19, 2000 and owned by the NDSU Research Foundation. U.S. Patent Application #476008, Patent #5,627,061; issued May 6, 1997 owned by Monsanto.

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (*See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.*)

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705. Telephone: (301) 504-8089. <http://www.ams.usda.gov/lsg/seed.htm>

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 3.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

ST-470 (02-10-2003) designed by the Plant Variety Protection Office with Word 2000. Replaces former versions of ST-470, which are obsolete.

Exhibit A

Origin and Breeding History of the Cultivar RG405RR

RG405RR tested as ND no. 95-931C(RR), was derived from the cross Barnes*3//Council/Resnick. Barnes was originally tested as ND95-931. Resnick was the source of the glyphosate resistant allele. Resnick was provided by Monsanto Corporation. The glyphosate resistant isoline of Resnick was developed by using Resnick as the recurrent parent and the Monsanto line 40-3-2 was the donor parent. 40-3-2 was transformed by using a glyphosate resistant allele as part of a construct. The cross of Council/Resnick was made in the summer of 1996 at the Fargo, ND nursery. ND95-931 was first crossed to Council/Resnick in the summer of 1998 at the Casselton, ND nursery. The first backcross to ND95-931 was conducted in the summer of 1999. The second backcross to ND95-931 was conducted in the fall of 1999 using a growth chamber. The third backcross to ND95-931 was conducted in the spring of 2000 using a growth chamber. The BC₃F₁ plants were grown in the Casselton, ND nursery in the summer of 2000. F₂ plants were grown in the 2000-2001 winter season in the greenhouse and sprayed with glyphosate herbicide. Seed of each F₂ plant was harvested separately to form 91 F_{2,3} purification rows. These F_{2,3} purification rows were grown in the summer of 2001 at the Casselton, ND nursery and sprayed with glyphosate herbicide. Of the 91 F_{2,3} purification rows evaluated for glyphosate resistance, 39 were uniformly resistant to glyphosate herbicide. These 39 rows were harvested in the fall of 2001 and the seed of these rows was sent to the 2001-2002 Chile winter nursery for winter increase. In the 2001-2002 winter nursery, the Breeder seed was increased and sprayed with glyphosate herbicide. Seed of each of the 39 different sources was tested separately for yield and agronomic performance in 2002. Seed of the 39 sources was kept separate for seed increase in 2002. Based on similar maturity, seed of two sources was combined to form ND95-931C(RR). ND95-931C(RR) is a selection from ND95-931(RR). ND95-931C(RR) was first tested in replicated field trials in 2002. Foundation seed was increased in the summer of 2002 at Carrington, ND. ND95-931C(RR) was released Dec. 12, 2003 as an F₆ pure line soybean cultivar and given the designation RG405RR. Variants include: 0.5% tawny pubescence, 0.5% brown pods, 0.5% white flowers, 0.5% yellow hila, 0.5% black hila, and 0.5% brown hila. RG405RR has been observed over a period of two years to be uniform and stable, for traits described in this application, within the proportion of variants described.

Exhibit B

Novelty Statement

1. RG405RR was developed primarily for high yield, suitable maturity, and tolerance to glyphosate herbicide. RG405RR is morphologically different than the recurrent parent which is Barnes.
2. RG405RR is most similar to the cultivar Barnes. Barnes has purple flowers, grey pubescence, brown pod color, dull yellow seed coat, buff hila and high peroxidase seed coat. RG405RR has purple flower color, grey pubescence, brown pod color, dull yellow seed coat, buff hila, and high peroxidase seed coat. Barnes is susceptible to glyphosate herbicide and RG405RR is resistant to glyphosate. In the winter of 2003, 100 seedlings each of Barnes and RG405RR were planted and sprayed with glyphosate herbicide. All 100 plants of the Barnes cultivar were prematurely killed by glyphosate and all 100 plants of RG405RR survived the glyphosate herbicide applied under greenhouse conditions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (*Glycine max* (L.) Merr.)

NAME OF APPLICANT(S) NDSu Research Foundation	FOR OFFICIAL USE ONLY
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) Research Park 1 Street Room 142A North Dakota State University Fargo, ND 58105-5014	PVPO NUMBER 200400153
	VARIETY NAME RG405RR
	TEMPORARY OR EXPERIMENTAL DESIGNATION ND95-931C (RR)

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in the first box (e.g.

9	9	9
---	---	---

 or

0	9
---	---

) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used:

Please answer all questions for your variety; lack of response may delay progress of your application.

A. MORPHOLOGY

Seed Shape:

- | | | |
|---|--|---|
| <table border="1"><tr><td>3</td></tr></table> 1 = Spherical
(L/W, L/T, and T/W ratios < 1.2) | 3 | 2 = Spherical-Flattened
(L/W ratio > 1.2; L/T ratio < 1.2) |
| 3 | | |
| 3 = Elongate
(L/T ratio > 1.2; T/W ratio < 1.2) | 4 = Elongate-Flattened
(L/T ratio > 1.2; T/W ratio > 1.2) | |

Seed Coat Color:

- | | | | | | |
|--|---|-----------|-----------|-----------|-------------------------------------|
| <table border="1"><tr><td>1</td></tr></table> 1 = Yellow | 1 | 2 = Green | 3 = Brown | 4 = Black | 5 = Other
(Please Specify) _____ |
| 1 | | | | | |

Seed Coat Luster:

- | | | |
|--|---|-----------|
| <table border="1"><tr><td>1</td></tr></table> 1 = Dull | 1 | 2 = Shiny |
| 1 | | |

Seed Size:

- | | | |
|---|---|---|
| <table border="1"><tr><td>1</td><td>5</td></tr></table> grams/100 seeds | 1 | 5 |
| 1 | 5 | |

Hilum Color:

- | | | | | | |
|--|----------------------------------|------------|-----------|----------|---------------------|
| <table border="1"><tr><td>1</td></tr></table> 1 = Buff | 1 | 2 = Yellow | 3 = Brown | 4 = Gray | 5 = Imperfect Black |
| 1 | | | | | |
| 6 = Black | 7 = Other (Please Specify) _____ | | | | |

A. MORPHOLOGY (Continued)

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Cotyledon Color:

☐ 1 = Yellow 2 = Green

Seed Protein Peroxidase Activity:

☐ 2 1 = Low 2 = High

Hypocotyl Color:

☐ 4 1 = Green 2 = Green with Bronze 3 = Light Purple 4 = Dark Purple extending to
('Evans' or 'Davis') Bands below Cotyledon below Cotyledons unifoliolate leaves ('Hodgson',
('Woodworth' or 'Tracy') ('Beeson' or 'Pickett 71') 'Coker', or 'Hampton 266A')

Leaf Shape:

☐ 2 1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other (Please Specify) _____

Flower Color:

☐ 2 1 = White 2 = Purple 3 = White with a Purple Throat

Pod Color:

☐ 2 1 = Tan 2 = Brown 3 = Black

Pubescence Color:

☐ 1 1 = Gray 2 = Brown (Tawny) 3 = Light Tawny

Plant Habit:

☐ 3 1 = Determinate 2 = Semi - Determinate 3 = Indeterminate 4 = Intermediate

Maturity Group:

<input type="checkbox"/> 0	<input type="checkbox"/> 3	1 = 000	2 = 00	3 = 0	4 = I	5 = II
		6 = III	7 = IV	8 = V	9 = VI	10 = VII
		11 = VIII	12 = IX	13 = X	14 = XI	15 = XII

Maturity Subgroup:

☐ 5 Please enter a value from 0 - 9

B. DISEASE REACTIONS

0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

Bacterial

☐ 0 Bacterial Pustule (*Xanthomonas campestris* pv. *glycines* (Nakano) Dye)

☐ 0 Bacterial Blight (*Pseudomonas syringae* pv. *glycinea* (Coerper) Young, Dye, & Wilkie)

☐ 0 Wildfire Blight (*Pseudomonas syringae* pv. *tabaci* (Wolf & Foster) Young, Dye, & Wilkie)

B. DISEASE REACTIONS (Continued)

0 = Not Tested

1 = Susceptible

200400153
2 = Resistant 3 = Tolerant

Fungal

200400153

☐ Brown Spot (*Septoria glycines* Hemmi)Frogeye Leaf Spot (*Cercospora sojina* Hara)☐

race 1

☐

race 2

☐

race 3

☐

race 4

☐

race 5

☐

race 6

☐

Other (Please Specify) _____

☐Target Spot (*Corynespora cassicola* (Berk. & Curt.) Wei)☐Downey Mildew (*Peronospora trifoliorum* var. *manchurica* (Naum.) Syd. ex Gäum)☐Powdery Mildew (*Microsphaera diffusa* Cke. & Pk.)☐Brown Stem Rot (*Phialophora gregata* (Allington & Chamberlain) W. Gams.)☐Stem Canker (*Diaporthe phaseolorum* (Cke. & Ell.) Sacc. var. *caulivora* Athow & Caldwell)☐Pod and Stem Blight (*Diaporthe phaseolorum* (Cke. & Ell.) Sacc. var. *sojae* (Lehman) Wehm.)☐Purple Seed Stain (*Cercospora kikuchii* (T. Matsu. & Tomoyasu) Gardener)☐Rhizoctonia Root Rot (*Rhizoctonia solani* Kühn)Phytophthora Root Rot (*Phytophthora megasperma* Drechs. f. sp. *glycinea* (Kuan & Erwin))☐

race 1

☐

race 8

☐

race 15

☐

race 22

☐

race 2

☐

race 9

☐

race 16

☐

race 23

☐

race 3

☐

race 10

☐

race 17

☐

race 24

2

☐race 4 per appl. (BT-2/29/2004
CAOT's
authorization)☐

race 11

☐

race 18

☐

race 25

☐

race 5

☐

race 12

☐

race 19

☐

race 26

☐

race 6

☐

race 13

☐

race 20

☐

Other (Please Specify)

☐

Bud Blight (Tobacco Ringspot Virus)

☐

Yellow Mosaic (Bean Yellow Mosaic Virus)

B. DISEASE REACTIONS (Continued) 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

200400153

☐ Cowpea Mosaic (Cowpea Chlorotic Virus)

☐ Pod Mottle (Bean Pod Mottle Virus)

☐ Seed Mottle (Soybean Mosaic Virus)

Nematode

Soybean Cyst Nematode (*Heterodera glycines* Ichinohe)

<input type="checkbox"/> race 1	<input type="checkbox"/> race 4	<input type="checkbox"/> race 9
<input type="checkbox"/> race 2	<input type="checkbox"/> race 5	<input type="checkbox"/> race 14
<input type="checkbox"/> race 3	<input type="checkbox"/> race 6	<input type="checkbox"/> Other (Please Specify) _____

☐ Lance Nematode (*Hoplolaimus columbus* Sher)

☐ Southern Root Knot Nematode (*Meloidogyne incognita* (Kofoid & White) Chitwood)

☐ Northern Root Knot Nematode (*Meloidogyne hapla* Chitwood)

☐ Peanut Root Knot Nematode (*Meloidogyne arenaria* (Neal) Chitwood)

☐ Reniform Nematode (*Rotylenchus reniformus* Linwood & Olivera)

☐ Javanese Nematode (*Meloidogyne javanica* (Treub) Chitwood)

☐ Other Nematode (Please Specify) _____

C. PHYSIOLOGICAL RESPONSES 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

☒ Iron Chlorosis on Calcareous Soil

☐ Phosphorus ☐ Other (Please Specify) _____

☐ Boron

☐ Aluminum

☐ Salt

☐ Drought

D. INSECT REACTIONS

0 = Not Tested

1 = Susceptible

2 = Resistant

3 = Tolerant

☐Mexican Bean Beetle (*Epilachna varivestis* Mulsant)☐Potato Leaf Hopper (*Empoasca fabae* (Harris))☐

Other (Please Specify) _____

E. HERBICIDE REACTIONS

0 = Not Tested

1 = Susceptible

2 = Resistant

☐

Metribuzin

☐

Bentazone

☐

Sulfonylurea

(By per applicant's authorization
3/29/2004)

2

☒

Glyphosate

☐

Glufosinate

☐

Pendimethalin

☐

Other (Please Specify) _____

F. TRANSGENIC COMPOSITION

Has the development of the subject variety included the insertion of genetic material from an organism other than a soybean, or, the removal of genetic material from the application variety?

If yes, please complete the following information requests*. Use additional pages if necessary.

☒

YES

☐

NO

1. Please state the vector's name:
2. Please state the vector components:
3. Please describe the genetic material successfully transferred into the subject variety:
4. Please describe the insertion protocol:

* A literature citation(s) explaining the four information requests above may be an acceptable alternative to completion of the "Transgenic Composition" portion of this form.

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G. BIOCHEMICAL MARKERS

Please describe any biochemical information here, which you believe will be helpful in further describing the subject variety (e.g. Simple Sequence Repeats, Restriction Fragment Length Polymorphisms, Isozymic Characterization). Use additional pages if necessary.

see attached

H. COMMENTS

RG405RR is a backcross derived version of cv Barnes. Three backcrosses were made to the recurrent parent which was Barnes. A greenhouse test was conducted to compare glyphosate resistance of RG405RR to that of Barnes. All 100 seedlings of RG405RR survived application of 64 oz/acre rate of glyphosate. All 100 seedlings of Barnes were killed due to application of glyphosate.

The NDSU Research Foundation has both a Research Agreement as well as a Commercialization Agreement to use and market glyphosate resistance as Roundup Ready soybeans.

Summary of Observed Genotypes

Primer	RG405RR	LaMoure
satt 038	22	22, 33, 12
satt 114	22	11
satt 147	22	11
satt 177	11	22
satt 191	11	11
satt 197	11	11
satt 242	11, 22	11, 22
satt 279	11	11
satt 291	11	11
satt 294	22	11
satt 302	11	11
satt 367	11	11
satt 373	11	11
satt 384	11	11
satt 385	22	11
satt 390	11	11
satt 408	11	11
satt 414	11	22
satt 420	11	11
satt 534	11	11, 22

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE**EXHIBIT E**
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) NDSU Research Foundation	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER ND95-931CRR	3. VARIETY NAME 'RG405RR'
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 1735 NDSU Research Park Drive PO Box 5002 Fargo, ND 58105-5002	5. TELEPHONE (Include area code) 701-231-8931	6. FAX (Include area code) 701-231-6661
7. PVPO NUMBER 200400153		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. ☐ YES ☒ NO

The 'RG405RR' variety contains Monsanto's Roundup Ready gene. The NDSU Research Foundation has permission to use the gene via a commercialization agreement with Mondanto.

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. ☒ YES ☐ NO10. Is the applicant the original owner? ☐ YES ☒ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☒ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☒ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

See additional Exhibit E Statement on the Basis of the applicant's ownership included in the application.

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Exhibit E**Statement of the basis of applicant's ownership**

Dr. Theodore Helms, an employee of the North Dakota Agricultural Experiment Station and North Dakota State University, is the plant breeder who developed 'RG405RR', the soybean cultivar for which Plant Variety Protection is hereby sought. The employee by agreement and because of the conditions of the use of the facilities and funds of the North Dakota Agricultural Experiment Station and North Dakota State University has assigned all ownership rights to 'RG405RR' soybean to the North Dakota Agricultural Experiment Station and North Dakota State University.

North Dakota State University on behalf of the North Dakota Agricultural Experiment Station has assigned ownership to the NDSU Research Foundation. The NDSU Research Foundation is a nonprofit corporation set up to own and manage the intellectual property of North Dakota State University.